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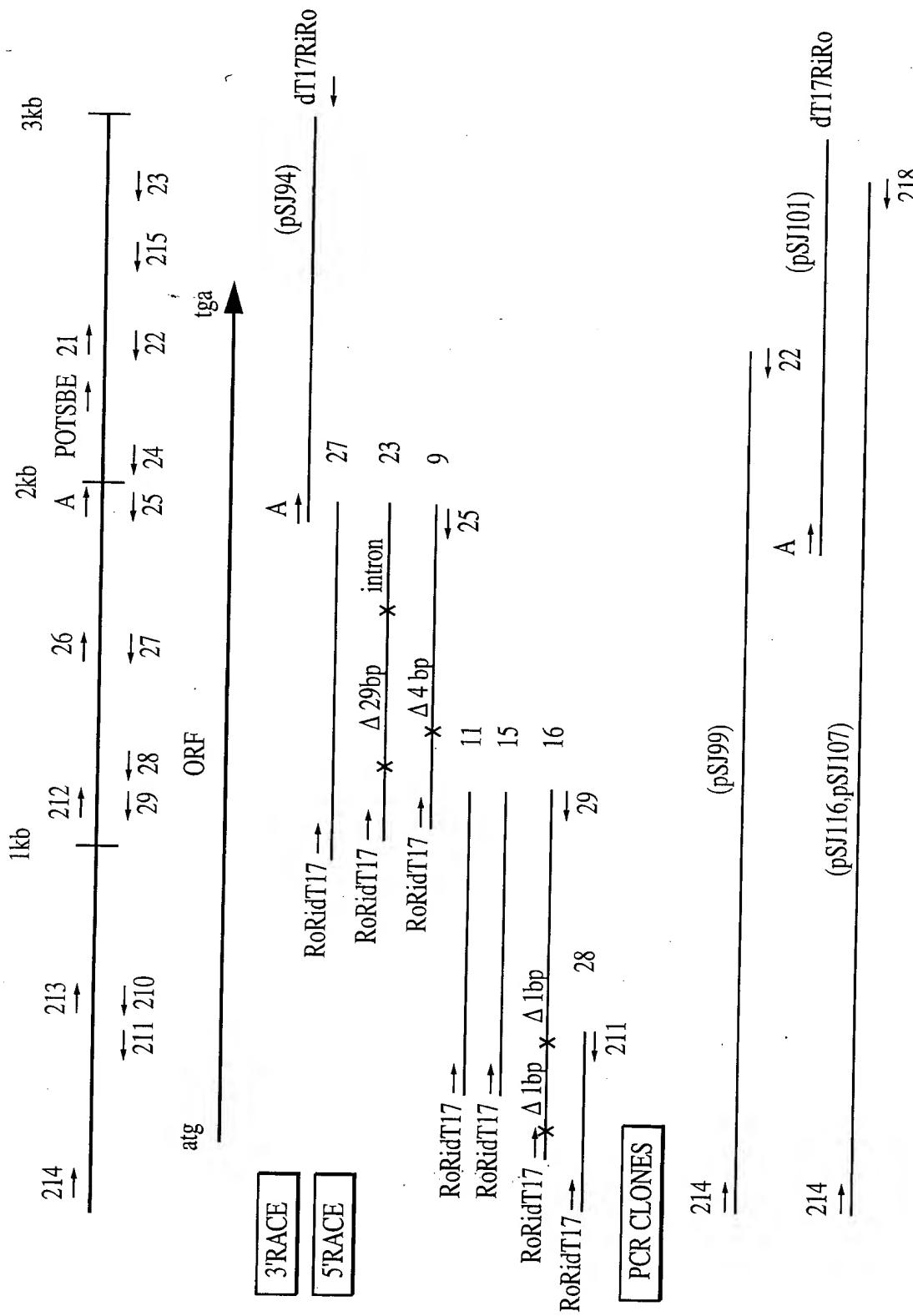


FIG. 1



Cja 1

AGCGAAATGGGACACTACACCATATCGGAATACGTTTCCACTTGCTCCACTCGCAAATCTCAATCTACCGGCTTCCATGGTGTATCGAAGGACCTCCTTGCCTTCCCTCAACCTTC
 TCGCTTACCTGTGTATGCTGTATAGTCCTATGCAAAGGAACACAGGGTGGGTTAGAGTTAGATGCCGAAGGTACACTAGCTTCCGGAGAACGGAAAGGAAAGTTGAAG
 O R N G T L H H I R N T F S L C S T P O I S I Y R L P W
 M G H Y T I S G I R F P C A P L R K S O S T G F H G D R R T S S C L S F N F
 AAGAACGGCGGTTCTAGGAGGTCTCTGGAAAGTCATCTGACTCTAAATGTAATGGTCACTGGCTCTAAAGAGTCTCTGGTGGGACTACCCGCTAACTTACGGTAT
 TTCTTCCGGCAAAGATCCTCCAGAAGGACCTTCACTAGAGTTAGACTTACCATACCAGTCAAGCAGATTTCAGGAAGGACTACCCGCTAACTTACGGTAT
 K K A A F S R R V F S G K S S H E S D S N V M V T A S K R V L P D G R I E C Y
 TCTTCTCAACAGATCAATTGGAAAGCCCTGGCACAGTTCAAGAAATCCAGGTGCTTACTGTATGGTGAAGACTCTCAATTATGGATGATAAGATTGTTGAAGATGAAGTAAATAAGAA
 AGAAGAAGTTGTCTAGTTAACCTCGGGGACCGTGTCAAAGTCTCTAGGTCAACACTCAGAACTTACCTACTATTCTAACACTCTACTCTATTCTAAC
 S S S T D O L E A P G T V S E E S O V L T D V E S L I M D K I V E D E V N K E
 YnnI

33
 Hind III
 600
 TCTGTTCCAATGCGGGAGACAGTTAGCATCGGAAAATGGATCTAAAGGTCCATTCTCCACCCGGAGGGCAAAGAAATATGACATAGATCCAACTGTTGACAGGCTTTCGT
 AGACAAGGTTACGCCCTCTGTCAATCGTAGCCCTTAACTAGATTGGTTCCAGGTAAAGGAGGTGGCCGTCTCCCGTTCTTATATACTGATCTAGTTGAACTTCCGAAAGGA
 S V P M R E T V S I G K I G S K P R S I P P G R G O R I Y D I D P S L T G F R
 Hind II

Line II
Nsi I
CAACACCTAGATTACCGGTATTACAGTACAAAAGACTCCGAGAACGAAATTGACAAGTATGAAGGTAGTCGGATGCAATTCTCGTGGCTATGAAAGTTGGTTTCTCACGCAGTGAA
GTGTTGGATCTAATGCCATAAAGTGTCAATGTTTCTGAGGCTCTTCTCTTTAACTGTTCAACTTCCATCAGACCTAACGATACTTTCAAAAGGACCCGATACCTTCAAAAGGATGCGTCACCT
O H L D Y R Y S O Y K R L R E E I D K Y E G S L D A F S R G Y E K F G F S R S E

FIG. 2-1
FIG. 2-2
FIG. 2-3
FIG. 2-4
FIG. 2

FIG. 2-1

FIG. 2-2

FIG. 2-3

FIG. 2-4

FIG. 2



MORGAN, LEWIS & BOCKIUS, LLP
PENNSYLVANIA AVENUE, NW, WASHINGTON, DC 20004
Mentor: Stephen A. JOBLING et al. Serial No. 09/297,703
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FIG. 2-2



ATGTAACCCATCATGGATTGCAAGGTAGTTCAACGGCAACTACAATGAAACTTGGATATGCAACTGATGTAAGATGGCTGGTTTATCTGATGCTGTTGAAATGATTGATGGT
TACATGTGGTAGTACCTAACGTCCATCTAAAGTGGCCGTTGATGTTACTTATGAAACCTATACGTTGACTACATCTACGACACCAAAATGACTACGACA
M Y T H H G L O V D F T G N Y N E Y F G Y A T D V D A V V Y L M L N D M I H G
CTCTTCCCAGAGGGCTGTCACCATGGTGAAGATGTTAGTGGATGCAAGCTGGATTCCGGTTGAAGATGGTGGCTGGCTTTGATTATCGTCTCCACATGGCTGTTGCTGATAAA
GAGAACGGTCTCCGACAGTGGTAACCACTCTACAATCACCTTACGGTTGCAAGGCTAACCTAACCGAACCAACGGAAACTAATAGCAGGGTGTACCGACAAACGACTATT
I F L P N N A D G S P P I P H G S R V K I R M D T P S G N K D S I P A W I K F S
NdeI

TCGGTTGACATTATTCAAAGAGAGATGAAAGATGGAAAATGGGTGACATTGACATATGCTGACAAACAGGGGGTGGTTGGAAAAGTGTGTTCTATGCTGAAAGTCATGACCGGGC
ACCCAACTCTAAAGCTCTCTCTACTCTAACCTTACGACTGTAACATGTTACCTGACTGTTACGACTGTTGTCGGCCACCAACCTTTCAACAAAGAATAGCACTTCAGTACTGGTCCGG
W V E I I O K R O E D W K M G D I V H M L T N R R W L E K C V S Y A E S H D O A
CTGTGTTGTCACAAACTATTGCAATTGGCTGATGGACAAGGATATGTTGACTCTATGTTGACTCTATGTTGACTCTACTCCCTCTACTCCCTCTACTCCCTCTACTCCCT
GAAACAACCACGTGTTGATAACGTAACCGACTAACCTGTTCTATACTGAAAGTACCTGAGGAAATATCTAGGTTAGATGGGAAATCTAGGACCTTATCTGTAACGTTTACTAG
L V G D K T I A F W L M D K D M Y D F M A R D R P S T P L I D R G I A L H K M L
NcoI

AGGCTTATTACCATGGGCTTACGGCGAGGATAATTGAAATTATGGAAATGAAATTGGACATCCTGAGTGGATTTCACGGAAAGGGGATCGACATCTGCCCAATCGTAAAGTAAAGT
TCGAATAATGGTACCCGAAATCCCTCTCCCTAAACTTAAACTTAAACCTTACTTAAACCTTAAACTTAAACCTTAACCTAACCTGAGGACTCACCTAACCTAACCTAACCT
R L I T M G L G E G Y L N F M N E F G H P E W I D F P R G D R H L P N G K V
EcoRV

ATTCAGGGACAACCAACACTTATGATAAAATGCCGTGCTAGATTGATCTAGGTGATGGAGACTATCTAAGATAATCATGGAAATGCAAGACTTTCATCAGGCAATGCAACATCTGAAAGAA
TAAGGTCCCTGTTGGTCAACTACTTACGGCAGCATCTAAACTAGATCCACTACGTTGATAGATTCTATAGCTTACCTTACGTTCTCAAACACTAGTCCGTTACGTTGAGACTCTCTT
I P G N N H S Y D K C R R F D L G D A D Y L R Y H G M O E F D O A M O H L E E
GCCTATGGTTCATGACTCTGAGGACTCTGAGGAGATGGATCATGGCTCCCTACTTCCTAGTAACGAAACTCTCCCTTGGAAACAAAACATAAGTTGAAAGTAACCTGATTGTCG
CGGATACCAAAAGTACTGAGAAGACTCTGTTGCTATATACTGCTTCCCTACTTCCTAGTAACGAAACTCTCCCTTGGAAACAAAACATAAGTTGAAAGTAACCTGATTGTCG
A Y G F M T S E H O Y I S R K D E G D R I I V F E R G N L V F V N F H W T N S
TATTCAGATTACGGAGTTGGACTTCAGTCAGGAAGTCAAGATTGTTGGCTTACAGGGCTTCAACAGGGCTTCAAGGCTTGTGCTGGCTGAGGACTCTCACCTT
ATAAGTCTAATGGCTCAACCGACGAAAGTTCAGTCTTCTAGTTCAACAAAACCTGAGCCTACTACCGAACAAACCTCCGAAATCAGTACTACGGCTCGTGAAGTGGAAA
Y S D Y R V G C F K S G K Y K I V L D S D G L F D H S H D A E H F T F

FIG. 2-3



MORGAN, LEWIS & BOCKIUS, LLP
111 PENNSYLVANIA AVENUE, NW, WASHINGTON, DC 20004
Inventor: Stephen A. JOBLING et al. Serial No. 09/297,703
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GTAAACCAGCTCCGGTCTGAGATAATTAGTAAGGGATCCCTAAAGGAAATGGTTAACCTGTGCAATTGAAACGCTATATTGAGACTTGAATTGATTTGCTGCTCA
CACTTGTGCTGGAGGGCGACTCTATCTATAATCATTCTCTAGGGGATTCTACCAATTGGACACGTTAACCTGCTGACTTAACTCTGAACTTAACCTAACGAGT
V K P A S G

GGACACAGGAATTAAATTCCAAGGGCTCAAGGGAGAGATAACGCCATAATGCCATTGATCATATGAAAGCTCCCCAACTTGTAAATCATTTAGCAAAGCTGGTGCACCTCTGAAATTATATG
CCTGTGTCTTATAAGTTTCCGAGTTCCGAGTTCCGCTCTATGTCCGTATTACGTACTAGTAAATCTGAGGGTTGAACATTAGTAAATCTGAGGACCTGAGACATTAAATNATAC
Ssp I Nsi I Nde I Nsi I Nde I

NC01
TAGTACTTGGCAAGTCACTGTTATTATGGATACCATGGATGTCGCTAGGAAAATTTGTATAACGCCACTAGGATTTTAAATCTCGCATATAACTGGTTGAATG
ATCATGAAACCGTTCACTGCAATTAACTTATGTTACAGGCACTTACAGGGAATGATCCCTAAATACACATATGCGGAATGATCCCTAAATTTAGCGTACAAGGTGATTTCACCAACCAACATTAC
3000

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Xmn1
TTGCGCGACTATTTGAGTAAATGATTGAAGTTATTCTTCACTTGGCCTGTGAAAAA
AACGGCTATAAAACTCATTTACTAACTCAATAAGAAGTGAACCCGGACACTTTTTTTT
3074

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FIG. 2-4



MORGAN, LEWIS & BOCKIUS, LLP
1000 PENNSYLVANIA AVENUE, NW, WASHINGTON, DC 20004
Inventor: Stephen A. JOBLING et al. Serial No. 09/297,703
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FIG. 3-1

FIG. 3

FIG. 3-1 FIG. 3-2
FIG. 3-3 FIG. 3-4



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130	140	150	160	170	180
TGATCGAAGGCCCTCCTTGCCCTTCTGCTTCAACTTCAGAACGGCGTTCTAGGAG CGATCCAGGACCTCCTTGCCCTTCTGCTTCAACTTCAGAACGGAG TGATCGAAGGCCCTCCTTGCCCTTCTGCTTCAACTTCAGAACGGCGTTCTAGGAG					csbe2con. seq
310	320	330	340	350	360
AGCCCCGGCACAGTTCAAGAAGAACATCCAGGGTGCCTACTGATGTTGAGACTCTATT AGCCCCGGCACAGTTCAAGAAGAACATCCAGGGTGCCTACTGATGTTGAGACTCTATT AGCCCCGGCACAGTTCAAGAAGAACATCCAGGGTGCCTACTGATGTTGAGACTCTATT					csbe2con. seq
490	500	510	520	530	540
AATATATGACATAGATCCAAGCTTGACAGGGCTTCTGCTCAACACCTAGATTACCGGTATTIC AATATATGACATAGATCCAAGCTTGACAGGGCTTCTGCTCAACACCTAGATTACCGGTATTIC AATATATGACATAGATCCAAGCTTGACAGGGCTTCTGCTCAACACCTAGATTACCGGTATTIC					csbe2con. seq
670	680	690	700	710	720
GGCACCCAGGGCTACCTGGGTGCATTGATGGAGATTCAATTACTGGAATTCCTAATGCT GGCACCCAGGGCTACCTGGGTGCATTGATGGAGATTCAATTACTGGAATTCCTAATGCT GGCACCCAGGGCTACCTGGGTGCATTGATGGAGATTCAATTACTGGAATTCCTAATGCT					csbe2con. seq
850	860	870	880	890	900
CAACAAAGATTCTATTCCCTGGATCAAGTTCTAGTTCAAGGCCACAGGTGAACCTCCC CAACAAAGATTCTATTCCCTGGATCAAGTTCTAGTTCAAGGCCACAGGTGAACCTCCC CAACAAAGATTCTATTCCCTGGATCAAGTTCTAGTTCAAGGCCACAGGTGAACCTCCC					csbe2con. seq
1030	1040	1050	1060	1070	1080
GGCAGTAATTAAACACATATGCCAACCTTAGAGATGATGCTTCCGATCAAAAGCT GGCAGTAATTAAACACATATGCCAACCTTAGAGATGATGCTTCCGATCAAAAGCT GGCAGTAATTAAACACATATGCCAACCTTAGAGATGATGCTTCCGATCAAAAGCT					csbe2con. seq

FIG. 3-2



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2244	GCAAGACTTGTATCA	CC	AA	T	C	A	ATCTTGAAAGCCTATGGTTCA	TGACTTCTGAGCA
2165	GCAAGACTTGTATCA	AC	CA	TT	C	A	CTTGAAAGCCTATGGTTCA	TGACTTCTGAGCA
2161	GCAAGACTTGTATCA	AC	CA	TT	C	A	CTTGAAAGCCTATGGTTCA	TGACTTCTGAGCA

FIG. 3-3



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12.00	12.10	12.20	12.30	12.40	12.50	12.60
ATGATTTAAAGTCCTACTAGATAAAGCTCACAGAGTTAGGTCTTCTCATGATATTGTCATAG ATGATTTAAAGTCCTACTAGATAAAGCTCACAGAGTTAGGTCTTCTCATGATATTGTCATAG ATGATTTAAAGTCCTACTAGATAAAGCTCACAGAGTTAGGTCTTCTCATGATATTGTCATAG						
13.80	13.90	14.00	14.10	14.20	14.30	14.40
TCAACTATGGGAGCTGGGAGGTCTAAGGTTCTTCTTCAAAATCAAGGTGGTGGTGGATGATACAA TCAACTATGGGAGCTGGGAGGTCTAAGGTTCTTCTTCAAAATGCAAGGTGGTGGATGATACAA TCAACATGGGAGCTGGGAGGTCTAAGGTTCTTCTTCAAAATGCAAGGTGGTGGATGATACAA						
15.60	15.70	15.80	15.90	16.00	16.10	16.20
TAGATGCTGGTTTATCTGATGCTGGTGAATGATGATGATGATGATGATGATGATGATGATGATG TAGATGCTGGTTTATCTGATGCTGGTGAATGATGATGATGATGATGATGATGATGATGATGATG TAGATGCTGGTTTATCTGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG						
17.40	17.50	17.60	17.70	17.80	17.90	18.00
TTCAGAAAGAGATGAAGATGGAAATGGGTGACATTGAAATATGCTGACAAACAGGGGTGGTTGGA TTCAGAAAGAGATGAAGATGGAAATGGGTGACATTGAAATATGCTGACAAACAGGGGTGGTTGGA TTCAGAAAGAGATGAAGATGGAAATGGGTGACATTGAAATATGCTGACAAACAGGGGTGGTTGGA						
19.20	19.30	19.40	19.50	19.60	19.70	19.80
CATCTACTCTCTTATGATCGTGGATTAGCATGCAAAAATGATCAGGCTTATTACCATGGGCTTATTAGG CATCTACTCTCTCATGATCGTGGATTAGCATGCAAAAATGATCAGGCTTATTACCATGGGATTAGG CATCTACTCTCTTATGATCGTGGATTAGCATGCAAAAATGATCAGGCTTATTACCATGGGATTAGG						
21.00	21.10	21.20	21.30	21.40	21.50	21.60
ACCACAGTTATGATAAATGCCGTCGTTAGATTGATCTAGGTCATCACACTATCTAGATATCATGGAAT ATTACAGTTATGATAAATGCCGGTAGGTTGATCTAGGCAATTCAAGGCTCTGAGATATCATGGAAT ATTACAGTTATGATAAATGCCGGTAGGTTGATCTAGGCAATTCAAGGCTCTGAGATATCATGGAAT						

csbe2con. seq
 20con. seq
 35con. seq

FIG. 3-4



Nco I

CTCTCTAACTCTCAGCGAAATGGGACACTACACCATATCAGGAATAACGTTTCTTGTCTTGCCTTCAATCTACGGGCTTCCATGGGTATCGGAGGACCTCCCTCTTGGCC
 GAGAGATTGAAGA? ?GCTTTACCTCTGTGATGGGTATAGTCCTTATGCAAAGAACACGAGCTGAGACGT? ?AGAGTTAGATGGCCGAAGGTACCGATAGCCCTGGAGGAACGG
 120
 M G H Y T I S G I R F P C A P L C K S O S T G F H G Y R R T S S C
 TTTCCCTCAACTTCAAGGAGGGCTTCTAGGAGGGTCTCTGGAAAGTCATCTGAATCTGACTCCCTCAAATGTAATGGTCACTGGTCACTGCTTCTAAAGAGTCCCTCCGTATGGTCTGGA
 240
 AAAGGAAGTGTGAAGTCCCTCCGAAAAGATCTCCAGAAGAGACCTTCACTAGACTTACAGTGGAGGTACAGTGGACTTACAGTGGAGGTACAGAAGGATTTCAGGAAGGACTACCGCTT
 L S F N F K E A F S R R V F S G K S H E S D S N V M V T A S K R V L P D G R
 TTGAATGGTATTCTCTTCAACAGATCAATTGAAAGAACCTGGCACAGTTTCAAGAAGAATCCCAGGTGCTTACTGTGAGACTCTCATTATGGATGATAAGATTTGAAGATGAAG
 360
 AACTTACGATAAGGAAGTGTCTAGTTAACCTTGGGGACCGGTGTAAGGTCTTCTAGGTTAACCTTGGGTCCACGAATGACTACACTCTAGAGGTAAACTTACTATTCTAACAACTTCTACTTC
 I E C Y S S S T D O L E A P G T V S E E S O V L T D V E S L I M D D K I V E D E
 Xmn I Hind III

10/33
 TAAATAAGAATCTGTTCCAAATGGATCTAGCATCAGAAAATTGGATCTAAACCAAGGTCCATTCTCCACCCGGCAGAGCCCAGAGATAATATGACATAGATCCAAAGCTTGA
 480
 ATTATTCTTAGACAAAGGTACGGGCTCTGTCAATCGTAGTTACCTAGATTGGTTCCAGGTAAAGGAGGTGGCTCTCCGGTTCTATACTGTATCTAGGTTCGAACT
 V N K E S V P M R E T V S I R K I G S K P R S I P P G R G O R I Y D I O P S L
 Hinc II Nsi I

CAGGCTTGTCAACACCTAGATTACCGTTTACAGTACAAAGACTCCGAGAGAAATTGACAAGTATGAAAGGTAGCTGGATGCTTCTGGGTATATGAAAAGTTGGTTCT
 600
 GTCCGAAGCAGCTTGGGATCTAAAGGCTAAAGCTTAACTGGCTCTCCTTAACCTGTTCAACTCCATCAGACCTACTGTAAGGACCGATACTTTCAAAACAAAGA
 T G F R O H L D Y R Y S O Y K R L R E E I O K Y E G S L O A F S R G Y E K F G F
 CACGCAGTGAACAGGATAACTTATAGAGACTGGGACCCAGGAGCTACCTGGGTGCAATTGAGATTCAATAACTGGAATCTCTAATGCAATGAGTGAAGATGAGTGT
 720
 GTGCGTCACTTGTCTTATTGAAATCTCTACCCGTGGTCTGATGACCTAACCTCTAAAGTTATGGATTACGTTAGCTGACTGACTGACTGACTGACTGACT
 S R S E T G I T Y R E W A P G A T W A A L I G D F N N P N A D V M T O N E C

FIG. 4-1
 FIG. 4-2
 FIG. 4-3
 FIG. 4-4

FIG. 4-1



No I Xho I

Bgl II

GTGTCGGCAGATCTTGGCCAAATTGGCAGATGGTTACCAACCAATTCCCATGGTTCTCGAGTAAGGATAACGGATACTCCATCTGGCAACAAAGATTCTATTCCCTGGTTGGA
 CACAGACCCTCTAGAAAACGGCTTATTACGCTTACCAAGTGGTGGTTAAGGGTACCAAGGCTCATTTCTATGCGTACCTATGAGGTAGACCGTTGTTCTAAAGATAAGGGACCAACCT 840
 G V W E I F L P N N A D G S P P I P H G S R V K I R M D T P S G N K D S I P A W
 TCAAGTTCTCAGTCAGGCAACCTCCCATAATAATGGCATATACTATGATCCTCCGAGGAGGAAGTATGTTCAAAAATCCTCAGCCAAAGACCAAAATCACTTCGGA 960
 AGTCAAGAGTCAGTTCAGGTCACCTGAGGTTATTAACGGTATAATGAGATGATCAAGTTTACAGTTTACAGGTGATGTTCTACACAAAGTTTACAGTTTACAGTTAAGGCTT
 I K F S V O A P G E L P Y N G I Y D P P E E K Y V F K N P O P K R P K S L R
 Hind III

TTTATGAGTCGCACGTTGCAATGAGTACTACGGAGCCAGTAATTAAACACATAATGCCAACCTTAACTGCTTAAATTGTTGATAACGGTGTAAATGGCTACAAATGCTGTTAGCTCATGG
 AAATACTCAGCGTGCACCTTACTCATATGCCCTCGGTCTTAACTGCTTAAATTGTTGATAACGGTGTAAATCTACTACAGAAGGGAGGTAGTTTTCGAAACCGATGTTACGACAACCTCGACTACC 1080
 I Y E S H V G M S S T E P V I N T Y A N F R D D V L P R I K K L G Y N A V O L M
 CTATTCAAGAGGCAATTCTATTAATTCTAGTTTGGGTATCACGTCACAAACTTTATGAGCTTACGGCTTACGGCATTGGAAACTCCTGTATGATTAAAGTCTCTAAATAGATAAAACCTCACGACT 1200
 GATAAGTTCTCGTAAGTATAACGATCAAACCCATAGTGGAGTGTGAAATTACGTCGATCGTGGCTTAAACCTTGAGGACTACTAAATTTCAGAGATTATCTATTTCAGTTGCTCA
 A I O E H S Y A S F G Y H V T N F Y A A S S R F G T P D D L K S L I D K A H E
 Nsi I

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 TAGGTCTTCTGTTCATGGATTTGATGGTCAACTAAACGATCAACTTACGGATGGGTGAATATGGTTGATGGTCAACTACTTCACTCTGGACCACGGGGTCATC 1320
 ATCCAGAAACAAGGTAACCTATAACAGTGGTACGGTAGTTGATTATGCAACCTACCCGACTTATACAAACTACCATGCTTACCACTGATGAAAGTGAACCTGGTCCCCCAGTAG
 L G L L V L M D I V H S H A S T N T L D G L N M F D G T D G H Y F H S G P R G H
 ATGGATGTTGGACTCTCGCCTTCAACTATGGGAGCTTCAAGCTTCAAGCTTCAATGGTGGGTGGTGGATGAGTACAAGTTGATGGTTCAAGATTGATGGGG 1440
 TAACCTACACCTGAGGGAAAGTTACGTTCCACCAACCTACTCATGTTCAAACCTAACCTAACGCTAAACTACGCTAAACTACCCC
 H W M W O S R L F N Y G S W E V L R F L L S N A R W W L D E Y K F D G F R F D G
 TGACTTCATGATGTAACCCATCATGGATTGAGGTAGATTACGGCAACTAACATGAATGAAATTCTGGATGAGTGTGTTTATTTGATGCTGTGAATGATA 1560
 ACTGAAGTACTACATGGGGTAGCTAACGTCACATCTAAACCTAACGTTGACTACATGAAACCTTACGACACCAAATAACTACGACAACCTACTAT
 V T S M M Y T H H G L O V D F T G N Y N E Y F G Y A T D V D A V V Y L M L L N D
 TGATTCACTGGTCTCTTCCAGGGCTGTACCATGGTGAAGATGGTACCATGGTACTGGCAACTGGTGGTTGAGATGGTGGTTGATTATCGTCTCCACATGGCTG 1680
 ACTAAGTACAGAGAAGGGTCTCCGACAGTGGTAACCACTCTACAATCACCTTACGGTAACTTACGGTTGACTACATCTACGACACCAAATAACTACGACAACCTACTAT
 M I H G L F P E A V T I G E D V S G M P T V C I P V E D G V G F D Y R L H M A

FIG. 4-2



MORGAN, LEWIS & BOCKIUS, LLP
111 PENNSYLVANIA AVENUE, NW, WASHINGTON, DC 20004
Inventor: Stephen A. JOBLING et al. Serial No. 09/297,703
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FIG. 4-3



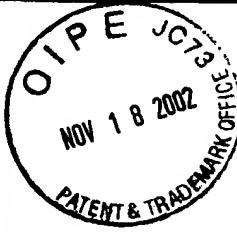
13/33

125+94. seq '60 '70 '80 '90 '100 '110 '120
TAGTTTTGGTACCATGTCACAAACTTTTGCACTTAGCCGATTGGAACCTCCTGATGATTGAG
TAGTTTTGGTACATGTCACAAACTTTTGCACTTAGCCGATTGGAACCTCCTGATGATTGAG
116. seq '1140 '1150 '1160 '1170 '1180 '1190 '1200
'130 '140 '150 '160 '170 '180 '190
125+94. seq TCTTTAATAGATAAAGCTCATGAGTTAGGGCTTCTCATGGATATGTTCATGCCATGGTAA
TCTTAATAGATAAAGCTCA GAGTTAGG CT CTGTTCTCATGGATATGTTCATGCCATGGTAA
116. seq '1210 '1220 '1230 '1240 '1250 '1260 '1270
'200 '210 '220 '230 '240 '250 '260
125+94. seq ATAAATACCGTTGGATGGGTGAAACATGTTGAGGTACGGATAGTCACTACTCCACTCGGATACGGG
TAATACCGTTGGATGGGTGAAATGTTGATGTTGACGGATGTCACACTT CACTCGGACCGGG
116. seq '1280 '1290 '1300 '1310 '1320 '1330 '1340
'270 '280 '290 '300 '310 '320 '330
125+94. seq TCATCATTTGGTTGGGACTCTGGGACTTCACCTATGGAAACTCTGGGAGGTCTAAAGATTTCTTCTTCA
TCATCATTTGG TTGGGACTCTGGGACTTCACCTATGG AGCTGGGAGGTCTAAAGATTTCTTCA
116. seq '1350 '1360 '1370 '1380 '1390 '1400 '1410
'340 '350 '360 '370 '380 '390 '400
125+94. seq AATGCAAGATGGTGGTTGGAAGAGTACAGGTTGATGGTTTAAAGATTGACTGGGTGACTTCCATGATGT
AATGCAAG TGGTGGTTGGA GAGTACA GTTGTATGG TT AGATTGATGG TT AGATTGATGG TT AGATTGATGG
116. seq '1420 '1430 '1440 '1450 '1460 '1470 '1480
'480 '490 '500 '510 '520 '530 '540
125+94. seq ACACCCCCATGGGTTGAGGTAGCTTTACTGCAACTATGATTGATGTTTACGGCAACTACATAATGCAACTGATGT
ACAC C CATG TTTAC TTGCAAGTTGGGTAGATTGCAACTATGATTGATGTTTACGGCAACTACATAATGCAACTGATGT
116. seq '1490 '1500 '1510 '1520 '1530 '1540 '1550
'550 '560 '570 '580 '590 '600 '610
125+94. seq GGTGAAGATGTTAGCGGAAAGCCAACATTGGCAATTGCAATTGCAACTATGCAATTGCAACTGATACC
GGTGAAGATGTTAGCGGAAAGCCAACATTGGCAATTGCAACTATGCAATTGCAACTGATACC
116. seq '1630 '1640 '1650 '1660 '1670 '1680 '1690
'620 '630 '640 '650 '660 '670 '680
125+94. seq GTCACATGGCATTGGCATAANTGGATTGAGATTCTTAAGAAGAGATGAGGACTGGAAATGGG
GTCACATGGC TTGGCTGAGATTCTTAAGAAGAGATGAGGACTGGAAATGGG
116. seq '1700 '1710 '1720 '1730 '1740 '1750 '1760

FIG. 5-1
FIG. 5-2
FIG. 5-3

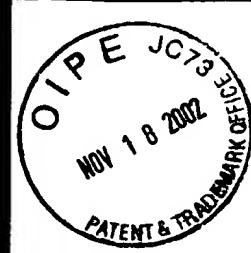
FIG. 5

FIG. 5-1



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FIG. 5-2.



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125+94. seq r1320 r1330 r1340 r1350 r1360 r1370 r1380
TGAGGGCTTAAACAGGCTTAGTCATGATGCCGAGCACTTCACCTTGCACGGTTAGTGAATACCGGCCT
116. seq TGGAGGGCTT CAGGGCTTAGTCATGATGC GAGCACTTCACCTTCAGCTTGAAGGGTTGCTACGATAACGGCCT
r2400 r2410 r2420 r2430 r2440 r2450 r2460
r1390 r1400 r1410 r1420 r1430 r1440 r1450
125+94. seq CGTCCTTCATGGTATATGGACAGCACTTGGACAGCTGGTCCATGCTTTAGTAGAAAGATGAAG
CGTCCTTCATGGTATATGGACCACTTGGACAGCACTGGTCCATGCTTTAGTAGAAAGATGAAG
CGTCCTTCATGGTATATGGACCACTTGGACAGCACTGGTCCATGCTTTAGTAGAAAGATGAAG
116. seq r2470 r2480 r2490 r2500 r2510 r2520 r2530

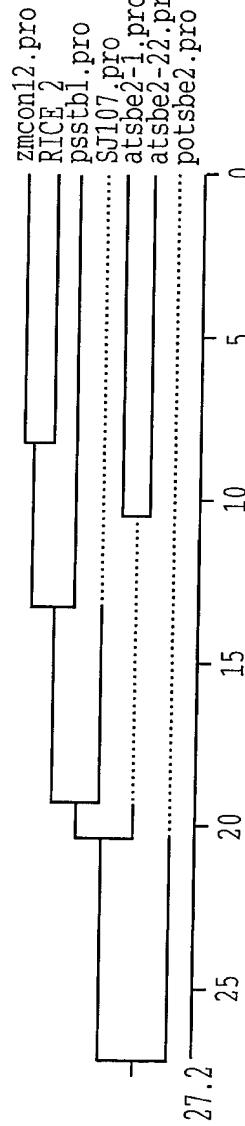
FIG. 5-3

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FIG. 6

125-94. pro SFGYHVTNFAFSSRFGTPDDLKSLIDKAHELGVLMDIVSHASHNTLDGLNMFDGTDHYFHSGSRG
SFGYHVTNFA: A: SSSRFGTTPDDLKSLIDKAHELGVLMDIVSHASHN. TLDGLNMFDGTD. HYFHSGSRG
SFGYHVTNFAASSRFGTTPDDLKSLIDKAHELGVLMDIVSHASHNTLDGLNMFDGTDHYFHSGSRG
116. pro 370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520 530 540 550 560 570
125-94. pro HHWLDSSRLFENGSWEVLRFLLSNARWMLEEYRFDGFRFDGVTSMYTPHGLOVAFTGNYNEYFGYATDV
HHW: WDSRRLFENGSWEVLRFLLSNARWML: EY: FDGFREDFGVTSMYTHGLOVFTGNYNEYFGYATDV
HHMMWDSRRLFENGSWEVLRFLLSNARWMLDEYKFDGFREDFGVTSMYTHGLOVFTGNYNEYFGYATDV
116. pro 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350
125-94. pro DAVIYMLVNDMIHGLFPEAVTIGEDVSGKPTFCIPVEDGGVGFDYRLHMAIADKWIEIJKKRDEDWKMG
DAV: YML: VNDMIHGLFPEAVTIGEDVSG. PT CIPVEDGGVGFDYRLHMA: ADKM: EI: : KRDEDWKMG
DAVYMLVNDMIHGLFPEAVTIGEDVSGMPTVCI PVEDGGVGFDYRLHMAVADKWEIJKKRDEDWKMG
116. pro 510 520 530 540 550 560 570
125-94. pro DIVHHTLTNRMLLEKCVAYAESHDDAOALVGDKTIAFWLMDKMDYDFMARDRSPSTPLIDRGIAHLHKMIRLITM
DIVH LTNRMLLEKCV: YAESHDAOALVGDKTIAFWLMDKMDYDFMADRPSTPLIDRG: ALHKMIRLITM
DIVHMLTNRMLLEKCVSYAESHDDAOALVGDKTIAFWLMDKMDYDFMADRPSTPLIDRGVALHKMIRLITM
116. pro 580 590 600 610 620 630 640
125-94. pro GIGGEGYLNFGNEFGHPEWIDFPRGDRLHLPNGKVIPGNNHSDDKCRRRFDLGDADYLRYHGMOFDOAM
GIGGEGYLNFGNEFGHPEWIDFPRGD HLP: GK: PGNN: SYDKCRRRFDLGD: : : RYHGMOFDOA:
116. pro 650 660 670 680 690 700 710
125-94. pro OHLLEEAYGFMTESEHOYTSRKDEGDRLLIVFERNLYVVFENFHWTNSYSDYRVGCFKSGKYKIVLDSDDGLF
OHLLEEAYGFMTESEHOYTSRKDEGDRLLIVFERNLYVVFENFHWT: SYSDYRVGC: KSGKYKIVLDSDDGLF
OHLLEEAYGFMTESEHOYTSRKDEGDRLLIVFERNLYVVFENFHWTSSYSDYRVGCLKSGKYKIVLDSDDPLF
116. pro 720 730 740 750 760 770 780
125-94. pro GGFNRLSHDAEHFTFDGWDNRPRSEMVYAPSRTAVHALVEDDEENAEENEVES
GGF. RLSHDAEH: F: GWDNRPRSEMVY: P: RIAW ALMDEDE :: : VES
116. pro GGFGRLSHDAEHFSFEGWIDNRPRSEMVYPCPTAVYALVEDEVENEVEPVAG
790 800 810 820 830

FIG. 7





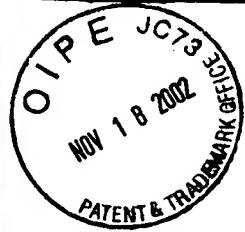
MORGAN, LEWIS & BOCKIUS, LLP
PENNSYLVANIA AVENUE, NW, WASHINGTON, DC 20004
Inventor: Stephen A. JOBLING et al. Serial No. 09/297,703
Attorney Docket No.: 054163-5001 Page 17 of 33

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FIG. 8-1 FIG. 8-2
FIG. 8-3 FIG. 8-4
FIG. 8-5 FIG. 8-6
FIG. 8-7 FIG. 8-8

EIG

FIG 8-1



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Y S S D S S S V A A A S E K - - V L V P G	Majority
60	70
Y N E S D S S S N V M V T A S K R - -	V L P D G
Y R D S E T K S S T V A A S G K - -	V L V P G
Y D S D S S S L A T T A S E K - -	V L I P E
A E F D S S S O A I S A S E K - -	V R G
C S C T H G A M R A A A A R K A V M V	P D
G S G G R V A V R A A G A S - G E V M I	P E
----- V N T E E O - K K -	Majority
140	150
E L D F A S S L O L E V N K E S V P M R E	SJ107.pro
E K G S V T S S L V D V N T D T O A K K T	potsbe2.pro
-----	psstbl1.pro
-----	atsbe2-1
-----	atsbe2-2
-----	zmcon12.pro
E L A - - - -	RICE 2
Y E G G L E A F S R G Y E K F G F T R S A T	Majority
220	230
Y E G S L D A F S R G Y E K F G F T R S E T	SJ107.pro
Y E G G G I D A F S R G Y E K F G F T R S A T	potsbe2.pro
Y E G G G I D A F S R G Y E K F G F T R S A T	psstbl1.pro
Y E G G G I D A F S R G Y E K F G F T R S D A	atsbe2-1
Y E G G G I D A F S R G Y E K F G F T R S D A	atsbe2-2
Y E G G G I D A F S R G Y E K F G F N H S A E	zmcon12.pro
Y E G G G I D A F S R G Y E K F G F N H S A E	RICE 2

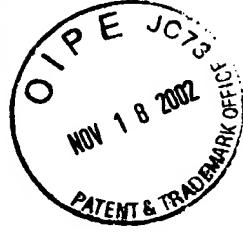
FIG. 8-2



G I T Y R E W A P G A K S A A L I G D F N N P N A D V M T K N E F G V W E I F L P N N A D G S S P P I P H G S R V														
250	260	270	280	290	300	310	320	330	340	350	360	370	380	
199	233	221	209	173	174	174	200	279	301	289	253	254	280	
G I T Y R E W A P G A T W A A L I G D F N N P N A D V M T K N E F G V W E I F L P N N A D G S S P P I P H G S R V	G I T Y R E W A P G A O S A A L I G D F N N P N A D V M T K N E F G V W E I F L P N N A D G S S P P I P H G S R V	G I T Y R E W A P G A K S A A L I V G D F N N P N A K S D V M T K N E F G V W E I F L P N N A D G S S P P I P H G S R V	G I T Y R E W A P G A K A A S L I V G D F N N P N A K S D V M T K N E F G V W E I F L P N N A D G S S P P I P H G S R V	G I T Y R E W A P G A F S A L I V G D F N N P N A D R M S K N E F G V W E I F L P N N A D G S S P P I P H G S R V	G I T Y R E W A P G A H S A L I V G D F N N P N A D R M S K N E F G V W E I F L P N N A D G S S P P I P H G S R V	G I T Y R E W A P G A H S A L I V G D F N N P N A D R M S K N E F G V W E I F L P N N A D G S S P P I P H G S R V	G I T Y R E W A P G E I P Y N G I Y D P P E E K Y V F K H P O P K R P K S L R I Y E S H V G M S S T E P K I N T Y A N F R D	G I T Y R E W A P G E I P Y N G I Y D P P E E K Y V F K H P O P K R P K S L R I Y E S H V G M S S T E P K I N T Y A N F R D	G I T Y R E W A P G E I P Y N G I Y D P P E E K Y V F K H P O P K R P K S L R I Y E S H V G M S S T E P K I N T Y A N F R D	G I T Y R E W A P G E I P Y N G I Y D P P E E K Y V F K H P O P K R P K S L R I Y E S H V G M S S T E P K I N T Y A N F R D	G I T Y R E W A P G E I P Y N G I Y D P P E E K Y V F K H P O P K R P K S L R I Y E S H V G M S S T E P K I N T Y A N F R D	G I T Y R E W A P G E I P Y N G I Y D P P E E K Y V F K H P O P K R P K S L R I Y E S H V G M S S T E P K I N T Y A N F R D	G I T Y R E W A P G E I P Y N G I Y D P P E E K Y V F K H P O P K R P K S L R I Y E S H V G M S S T E P K I N T Y A N F R D	G I T Y R E W A P G E I P Y N G I Y D P P E E K Y V F K H P O P K R P K S L R I Y E S H V G M S S T E P K I N T Y A N F R D
359	393	381	369	333	334	360	410	420	430	440	450	460	470	
S Y Y A S F G Y H V T N F Y A A S S R F G T P D D L K S L I D K A H E L G L V V L M D I V H S H A S N N T L D G L N	S Y Y A S F G Y H V T N F Y A P S S R F G T P D D L K S L I D K A H E L G L V V L M D I V H S H A S N N T L D G L N	S Y Y A S F G Y H V T N F Y A P S S R F G T P D D L K S L I D K A H E L G L V V L M D I V H S H A S N N T L D G L N	S Y Y A S F G Y H V T N F Y A P S S R F G T P D D L K S L I D K A H E L G L V V L M D I V H S H A S N N T L D G L N	S Y Y A S F G Y H V T N F Y A P S S R F G T P D D L K S L I D K A H E L G L V V L M D I V H S H A S N N T L D G L N	S Y Y A S F G Y H V T N F Y A P S S R F G T P D D L K S L I D K A H E L G L V V L M D I V H S H A S N N T L D G L N	S Y Y A S F G Y H V T N F Y A P S S R F G T P D D L K S L I D K A H E L G L V V L M D I V H S H A S N N T L D G L N	S Y Y A S F G Y H V T N F Y A P S S R F G T P D D L K S L I D K A H E L G L V V L M D I V H S H A S N N T L D G L N	S Y Y A S F G Y H V T N F Y A P S S R F G T P D D L K S L I D K A H E L G L V V L M D I V H S H A S N N T L D G L N	S Y Y A S F G Y H V T N F Y A P S S R F G T P D D L K S L I D K A H E L G L V V L M D I V H S H A S N N T L D G L N	S Y Y A S F G Y H V T N F Y A P S S R F G T P D D L K S L I D K A H E L G L V V L M D I V H S H A S N N T L D G L N	S Y Y A S F G Y H V T N F Y A P S S R F G T P D D L K S L I D K A H E L G L V V L M D I V H S H A S N N T L D G L N	S Y Y A S F G Y H V T N F Y A P S S R F G T P D D L K S L I D K A H E L G L V V L M D I V H S H A S N N T L D G L N	S Y Y A S F G Y H V T N F Y A P S S R F G T P D D L K S L I D K A H E L G L V V L M D I V H S H A S N N T L D G L N	S Y Y A S F G Y H V T N F Y A P S S R F G T P D D L K S L I D K A H E L G L V V L M D I V H S H A S N N T L D G L N

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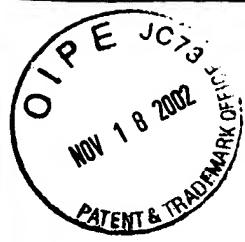
FIG. 8-3



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K I R M D T P S G I K D S I P A W I K Y S V	Majority
300	310
K I R M D T P S G N K D S I P A W I K F S V	SJ107.pro
K I R M D T P S G V K D S I P A W I K F S V	potsbe2.pro
K I R M D T P S G I K D S I P A W I K F S V	psstbl1.pro
K I R M D T P S G I K D S I P A W I K F S V	atsbe2-1.pro
K I R M D T P S G I K D S I P A W I K F S V	atsbe2-2.pro
K I R M D T P S G I K D S I P A W I K F S V	zmcon12.pro
K I R M D T P S G I K D S I P A W I K F S V	RICE 2
D V L P R I I K K L G Y N A V O I M A I O E H	Majority
380	390
D V L P R I I K K L G Y N A V O I M A I O E H	SJ107.pro
E V L P R I I K K L G Y N A V O I M A I O E H	potsbe2.pro
D V L P R I I K K L G Y N A V O I M A I O E H	psstbl1.pro
D V L P R I I K K L G Y N A V O I M A I O E H	atsbe2-1.pro
D V L P R I I K K L G Y N A V O I M A I O E H	atsbe2-2.pro
E V L P R I I K K L G Y N A V O I M A I O E H	zmcon12.pro
E V L P R I I K K L G Y N A V O I M A I O E H	RICE 2
M F D G T D G H Y F H S G S R G Y H W M W D	Majority
460	470
M F D G T D G H Y F H S G P R G H H W M W D	SJ107.pro
M F D C T D S C Y F H S G A R G Y H W M W D	potsbe2.pro
M F D G T D G H Y F H P G S R G Y H W M W D	psstbl1.pro
M F D G T D G H Y F H S G P R G Y H W M W D	atsbe2-1
M F D G T D A H Y F H S G P R G H H W M W D	atsbe2-2
G F D G T D T H Y F H S G S R G H H W M W D	zmcon12.pro
G F D G T D T H Y F H S G S R G H H W M W D	RICE 2

FIG. 8-4



S R L F N Y G S W E V L R Y L L S N A R W W L E E Y K F D G F R F D G V T S M M Y T H H G L O V G F T G N Y N E Y F G		490	500	510	520	530
439	S R L F N Y G S W E V L R Y L L S N A R W W L E E Y K F D G F R F D G V T S M M Y T H H G L O V G F T G N Y N E Y F G					
473	S R L F N Y G N S W E V L R Y L L S N A R W W L E E Y K F D G F R F D G V T S M M Y T H H G L O V G F T G N Y N E Y F G					
461	S R L F N Y G S W E V L R Y L L S N A R W W L E E Y K F D G F R F D G V T S M M Y T H H G L O V G F T G N Y N E Y F G					
449	T R L F N Y G S W E V L R Y L L S N A R W W L E E Y K F D G F R F D G V T S M M Y T H H G L O V G F T G N Y N E Y F G					
413	S R L F N Y G N S W E V L R Y L L S N A R W W L E E Y K F D G F R F D G V T S M M Y T H H G L O V G F T G N Y N E Y F G					
414	S R L F N Y G N S W E V L R Y L L S N A R W W L E E Y K F D G F R F D G V T S M M Y T H H G L O V G F T G N Y N E Y F G					
440	S R L F N Y G N S W E V L R Y L L S N A R W W L E E Y K F D G F R F D G V T S M M Y T H H G L O V G F T G N Y N E Y F G					
	Y P E A I T I G E D V S G M P T F C L P V O D G G V G F D Y R L H M A V A D K W I E L L K R D E D W K M G D I V H T					
		490	500	510	520	530
P P E A V T I G E D V S G M P T V C L P A R D G G V G F D Y R L H M A V A D K W I E L L K R D E D W K M G D I V H T		570	580	590	600	610
519	P P D A I T I G E D V S G M P T F C L P Y O E G G V G F D Y R L H M A V A D K W I E L L K R D E D W K M G D I V H T					
553	P P D A I V S I V G E D V S G M P T F C V P T O D G G V G F D Y R L H M A V A D K W I E L L K R D E D W K M G D I V H T					
541	P P D A I V S I V G E D V S G M P T F C V P T O D G G V G F D Y R L H M A V A D K W I E L L K R D E D W K M G D I V H T					
529	Y P E A I I T I V G E D V S G M P T F C D P V O D G G V G F D Y R L H M A V A D K W I E L L K R D E D W K M G D I V H T					
493	Y P E A I I T I V G E D V S G M P T F C D P V O D G G V G F D Y R L H M A V A D K W I E L L K R D E D W K M G D I V H T					
494	Y P E A I I T I V G E D V S G M P T F C D P V O D G G V G F D Y R L H M A V A D K W I E L L K R D E D W K M G D I V H T					
520	Y P E A I I T I V G E D V S G M P T F C D P V O D G G V G F D Y R L H M A V A D K W I E L L K R D E D W K M G D I V H T					
	V G D K T I A F W L M D K D M Y D F M A L D R P S T P L I D R G I A L H K M I R L I T M G L G G E G Y L N F M G N E F					
		490	500	510	520	530
V G D K T I A F W L M D K D M Y D F M A L D R P S T P L I D R G I A L H K M I R L I T M G L G G E G Y L N F M G N E F		650	660	670	680	690
599	V G D K T I A F W L M D K D M Y D F M A L D R P S T P L I D R G I A L H K M I R L I T M G L G G E G Y L N F M G N E F					
633	V G D K T I A F W L M D K D M Y D F M A L D R P S T P L I D R G I A L H K M I R L I T M G L G G E G Y L N F M G N E F					
621	V G D K T I A F W L M D K D M Y D F M A L D R P S T P L I D R G I A L H K M I R L I T M G L G G E G Y L N F M G N E F					
609	V G D K T I A F W L M D K D M Y D F M A L D R P S T P L I D R G I A L H K M I R L I T M G L G G E G Y L N F M G N E F					
573	V G D K T I A F W L M D K D M Y D F M A L D R P S T P L I D R G I A L H K M I R L I T M G L G G E G Y L N F M G N E F					
574	V G D K T I A F W L M D K D M Y D F M A L D R P S T P L I D R G I A L H K M I R L I T M G L G G E G Y L N F M G N E F					
600	V G D K T I A F W L M D K D M Y D F M A L D R P S T P L I D R G I A L H K M I R L I T M G L G G E G Y L N F M G N E F					

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FIG. 8-5



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L A T D V D A V V Y L M L V N D L I H G L	560	Majority
A A T D V D A V V Y L M L V N D L I H G L	550	
L A T D V D A V V Y L M L V N D L I H G L		SJ107.pro
L A T D V D A V V Y L M L V N D L I H G L		potbs2.pro
L A S T D V D A V V Y L M L V N D L I H G L		psstb1.pro
L E T D V D A V V Y L M L V N D L I H G L		atsbe2-1.pro
F A T D V D A V V Y L M L V N D L I H G L		atsbe2-2.pro
F A T D A D A V V Y L M L V N D L I H G L		zmcon12.pro
L T N R R W L E K C V S T A E S H D O A L		RICE 2
620	640	Majority
L T N R R W L E K C V S Y A E S H D O A L	630	
L T N R R W L E K C V S Y A E S H D O A L		SJ107.pro
L T N R R W L E K C V S Y A E S H D O A L		potbs2.pro
L T N R R W L E K C V S Y A E S H D O A L		psstb1.pro
L T N R R W L E K C V S Y A E S H D O A L		atsbe2-1.pro
L T N R R W L E K C V S Y A E S H D O A L		atsbe2-2.pro
L T N R R W L E K C V S Y A E S H D O A L		zmcon12.pro
L T N R R W L E K C V S Y A E S H D O A L		RICE 2
G H P E W I D F P R G E O H L P D G K V I	720	Majority
700	710	
G H P E W I D F P R G D L H L P S G K F V		SJ107.pro
G H P E W I D F P R A E O H L S D G S V I		potbs2.pro
G H P E W I D F P R G E O H L P N G K I V		psstb1.pro
G H P E W I D F P R T D O H L P D G R V I		atsbe2-1.pro
G H P E W I D F P R G E O R L S D G S V I		atsbe2-2.pro
G H P E W I D F P R G E O R L P S G K F I		zmcon12.pro
G H P E W I D F P R A P O V L P N G K F I		RICE 2

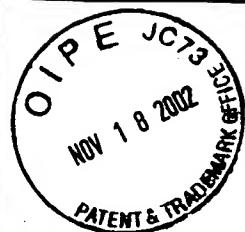
FIG. 8-6



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P G N N S Y D K C R R F D L G D A D Y L R Y H G M O E F D R A M O H L E E K Y G F M T S E H O Y I S R K D E G D		730	740	750	760	770
679	S D Y R I G C L K P G K Y K I V L D S D D P L F G G F G R L D H T A E H F T A D G W Y D D R P R S F M V V A P C R T					
713	P G N N S Y D K C R R F D L G D A D Y L R Y H G M O E F D R A M O H L E E K Y G F M T S E H O Y I S R K D E G D					
701	P G N N S Y D K C R R F D L G D A D Y L R Y H G M O E F D R A M O H L E E K Y G F M T S E H O Y I S R K D E G D					
689	P G N N S Y D K C R R F D L G D A D Y L R Y H G M O E F D R A M O H L E E K Y G F M T S E H O Y I S R K D E G D					
653	P G N N S Y D K C R R F D L G D A D Y L R Y H G M O E F D R A M O H L E E K Y G F M T S E H O Y I S R K D E G D					
654	P G N N S Y D K C R R F D L G D A D Y L R Y H G M O E F D R A M O H L E E K Y G F M T S E H O Y I S R K D E G D					
680	P G N N S Y D K C R R F D L G D A D Y L R Y H G M O E F D R A M O H L E E K Y G F M T S E H O Y I S R K D E G D					
759	S D Y R I A C L K P G K Y K I V L D S D D P L F G G F G R L D H T A E H F T A D G W Y D D R P R S F M V V A P C R T					
793	S D Y K V I G C S V P G K Y K I V L D S D D P L F G G F G R L D H T A E H F T A D G W Y D D R P R S F M V V A P C R T					
781	S D Y R I G C S V P G K Y K I V L D S D D P L F G G F G R L D H T A E H F T A D G W Y D D R P R S F M V V A P C R T					
769	S D Y R I G C R I P G K Y K I V L D S D D P L F G G F G R L D H T A E H F T A D G W Y D D R P R S F M V V A P C R T					
733	F D Y R I G C R I P G K Y K I V L D S D D P L F G G F G R L D H T A E H F T A D G W Y D D R P R S F M V V A P C R T					
734	F D Y R I G C R I P G K Y K I V L D S D D P L F G G F G R L D H T A E H F T A D G W Y D D R P R S F M V V A P C R T					
760	F D Y R I G C R I P G K Y K I V L D S D D P L F G G F G R L D H T A E H F T A D G W Y D D R P R S F M V V A P C R T					
810		820	830	840	850	
825						
864						
861	S E P I E L S V G V E S E P I E R S V E E V E S E T T O O S V E V E S					
840	- E R S S L V					
799	-					
797	-					
823	-					
890		900	910	920	930	

FIG. 8-7



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RVIVFERGNLVFVFNFHWTNSY	Majority
780 790	
R I I V F E R G N L V F V F N F H W T N S Y	SJ107.pro
R M I V F E R G N L V F V F N F H W T N S Y	potsbe2.pro
R V I V F E R G N L V F V F N F H W T N S Y	psstbl1.pro
R V I V F E R G N L V F V F N F H W T N S Y	atsbe2-1.pro
R V I V F E R G N L V F V F N F H W T N S Y	atsbe2-2.pro
K V I V F E R G N L V F V F N F H W T N S Y	zmcon12.pro
K M I V F E R G N L V F V F N F H W T N S Y	RICE 2
A V V Y A L V D - - - - -	Majority
860 870	
A V V Y A L V E - - - - -	SJ107.pro
A V V Y A L V D K - - - - -	potsbe2.pro
A V V Y A L A D G V E S E P I E L S D G V E	psstbl1.pro
A V V Y A A V D - - - - -	atsbe2-1.pro
A V V Y A L A N - - - - -	atsbe2-2.pro
C V V Y A P V E	zmcon12.pro
C V V Y A P A E	RICE 2
- - P X -	Majority
940	
V A G -	SJ107.pro
- - E -	potsbe2.pro
E T T O	psstbl1.pro
- - H D	atsbe2-1.pro
- - P V E	atsbe2-2.pro
- - P A E	zmcon12.pro
	RICE 2

FIG. 8-8



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Bcl I Nco I
 ATGGACAAGGATATGACTTCACTTCAACGACCATCTTGAAGACCATCTCATAGATCGTGAGTAGCATTCACCCCTCATCGTAACTGAGATCAGGCTTATACCA
 TACCTGTTCTCATACATACTGAACTGACCTGCTGGAGAGTATCGTACGGAGATTTACTAGTCCGAATAATGGT
 100
 M D K D M Y D F M A L D R P S T P L I D R G V A L H K M I R L I T
 TGGGATTAGGGAGAAGGGATATTGAAATTGAAATTGGAAATTGGATTTGATGTTCAAGGGTGTACATCTTCCAGGTGG
 200
 ACCCTAATCGCCTCTTCCATAAACTTAAACCTTAAACCTGTTACTTAACCTGTTGGGGCTACCTAACTAAAGGTTCTCCACTAGATGTAGAAGGGTACCC
 M G L G G E G Y L N F M G N E F G H P E W I D F P R G D L H L P S G
 Bcl I EcoR V
 TAAATTGTTCTGGACAATTACAGTATGATAATGCCCCGTTAGGTTGACTTCAAGGCTTCAATTGAACTTCAAGGCTCTGAGATATCATGGATATCGGAATGCAAGGTTT
 300
 ATTAAACAGGACCTTGTAACTATGTCATACTTACGGCCATCCAACTAGATCCGGATCTTAACTGTTCTGAACTCTTACCTTACGGTTCTCAA
 K F V P G N N Y S Y D K C R R F D L G N S K R L R Y H G M O E F
 GATCAAGGAAATTCAAGCATCTTGAAGAAGCCTATGGTTCATGACTCTGAGGACCAATACTACGGAAAGCATGAAAGGATGATCGGATTCATTGCTTC
 400
 CTAGTTCTGTTAAGTCAGACTCTTCGGATACCAAGTACTGAAGACTCTGTTATGTATACTGCTTCTACTTCCCTAGCCTAGTAACAGAAC
 D O A I O H L E E A Y G F M T S E H O Y I S R K D E R D R I I V F
 AGAGGGGAAACCTCTGTTTGTATTCAATTTCATTGGACTTACGGACTGCTTACGGATTACCGAGGTTGGCTGCTTAAGGCCAGGAAGTACAAGATA
 500
 TCTCCCCCTTGAGCAAAAACATAAGTTAAAGTAACCTGATAAGCCTAATGGCTAACCGACGAAATTCTGGTCTTCTATCAGTTCTATCAGAA
 E R G N L V F V N F H W T S S Y S D Y R V G C L K P G K Y K I V L
 GGATTTCAGATGATCCTTGTGTTGGAGGGCTTGGCAGGGCTTACTGTCATGATGCAGAGGCACTTCAGCTTGAAGGGTGGTACCGATAACCCGGCT
 600
 CCTAAGCTCTAGGAAACCTCCGAACCGTCCGAATCTGACTACGCTCTCGTGAAGTCGAACACTCCACCATGCTATTGGGGAGCTTGGAAAG
 D S D D P L F G F G R L S H D A E H F S F E G W Y D N R P R S F
 ATGGGTGACACCCATGATGAAACGGACTGTTAGTGGAGGATGAAGTGAGAATGAAAGTGGAAACCTGTCGGCCGGTTAACATATATCTTGTAC
 700
 TACCCACATGTTGTGACATCTTGTGTCATCTTCACTTCACCTTCACTTCACTTCACTTCACCTTCACTTCACCTTCACTTCACCTTCACTTC
 M V Y T P C R T A V V Y A L V E D E V E N E V E P V A G
 AACACAGGTTCTGAAGGAAATGCGCAATTATTGATCTTCCTATGTCATCTGGCTTGAACGAAATAATTGAGCCATAATTGATGTCACGGCTCTTG
 800
 TTGTCAGACTCTGGCTTACGGTATAACTAGAAGGATACACGTAGCTTACGGTATAACTCGGATATTAAACTACAGTGGCAACCTGTCAGCT
 ATTATTCATCTGGTTCTGGTATTGTTGATGATAAAACATAATCAAGACCAATAGGAACCTAATCAAAAGGAAATTGCTACATGCTAGCTCCAT
 900
 TAAGCTTACGGACCAAGAACATTAACACAGTACTATTGTTAGTATTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTG
 Bcl I
 CTCAGACCTCTAAACCATAAACTCTCAAGCTGCCCTGGCTTGGTAGTATGTTGCAATCTTAAATTATCATGATCGCTGTGGATGCTA
 GAGCTGGAGGATTGGTATTAGAAAGTGTCTTACGGTATAACTCGGATATTAAACTACAGTGGCAACCTGTCAGCTCCAGGAACCTAGAT
 1000
 ACTATGACAATTGGTAAACATATAACGGTGGCTCTTAAATTCAAAATTCAACCTTAAACTACACCATGAAACGGTTAGAAACGGTTAACATC
 TGATGTTAAGTACTGTTAAACATATAACGGTGGCTCTTAAATTCAAAATTCAACCTTAAACTACACCATGAAACGGTTAGAAACGGTTAACATC
 1069

FIG. 9



Cia!

Kpn I

TATGGATTGACATCGATAATAAGCACTCACTATAGGGATTTTTTTGTTAGTTTTGGTACCATGTCACAAACTTTTGACCTAGCA
 ATACCTTAACCTGTAGCTTATTATGCTGAGTGTATCCCTAaaaaaaaaaaaaaaaatccaaaaacataaaaacataaaaaaaatccaaaa
 CGGATTGGAACCTCCCTGATGATTGAAGCTCTTAATAGATAAAAGCTCATGAGTTAGGACTTACAGGTTACAGGTTGAAAGAACTGGATCGT
 S R F G T P D L K S L I D K A H E L V L M D I V H S H A S N
 TAATACCTTGGATGGGTGAAACTTCAACTTCAATTTCGAGTACTCAATTCGAGTACTCAATCCCGACGAACAAGGTACCTTAAACAGTTCGGTACGGAGTT
 ATTATGCAACCTACCCGACTTGTACAAACTACCATGCCATTGCTATCGTGTGGTACATGGGTACAGGTTACAGGTTGAAAGAGTACGGTACTCTGGCTTTTC
 N T L D G L N M F D G T D S H Y F H S G S R G H H W L W D S R L F
 AACTATGGAAGCTGGAGGTGCTAAGATTCTCTTCAATGCAAGATGGGGTTGGAAGAGTACAGGTTGATGGTTTAGATTGATGGGGTACTT
 TTGATACTTCGACCCCTCCACGATTCTAAAGAACAAAGTTAACCTTACGTTTACGTTTACGTTTACGTTTACGTTTACGTTTACGTTTACGTTTACGAA
 N Y G S W E V L R F L L S N A R W W L E E Y R F D G F R F D G V T
 Nco I Sca I

FIG. 10-1

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 CGATGATGTAACACTCCCCATGGGGTGCAGGTAGCTTTACTGGAACTAACATGAGTACTTGGATATGCAACTGATGCTGTGATTATTGAT
 GGTACTACATGTGAGGGTACCCAGTCCATCGAAAATGACCGTTGATGTTACTCATGAAACCTTACGGTGAACCTACATCTACGACACTAAATAACTA
 S M M Y T P H G L O V A F T G N Y N E Y F G Y A T D V D A V I Y L M
 GCTTGTGAATGATGATGATTACGGCTCTTCCCTGAGGTGTTACCATGGTGAAGATGTTAGCGGAAAGCCAAACATTTCGATTCCAGTGGAAAGATGGT
 CGAACACTTACTATTAAGTGCAGAAAAGGGACTCCGACAATGGTAAACCACTCTACAACTCCGCTTGGTTGTAAGGTACACUTCTACCA
 L V N D M I H G L F P E A V T I G E D V S G K P T F C I P V E D G
 GGTGTTGGATTGATTACCGTCTCCACATGCCCATGGGTTACCTTAAGGATTGAGATTCTTAAGAAAGAGATGAGGACTGGAAAATGGGTGACATTGTGC
 CCACAACTTAACCTAAACTATGGCAGAGGTACCGGTTACCGGTTACCGGTTACCGGTTACCGGTTACCGGTTACCGGTTACCGGTTACCGGTTACCG
 G V G F D Y R L H M A I A D K W I E I L K R D E D W K M G D I V
 ATACACTAACAGAAGGTGGTGGAAAAATGTTGCTTATGCTGAAAGTCATGACCAAGCTCTGGTGGTACAAAACATTGCTTACGTTGCTGAT
 TATGTCAGTGGTTGCTTCCACCAACCTTTACACAAACGAAATACGACTTACGTTACGTTACGTTACGTTACGTTACGTTACGTTACGTTACGTTAC
 H T L T N R R W L E K C V A Y A E S H D O A L V G D K T I A F W L M
 Bcl I Nco I

GGACAAAGCACATGTACGACTTCACTGGCTGGACAGACCATCTACTCTCTTATAGATCGTGGAAATAGCATGGCACAAGAAATGATCAGGGCTTATTACCATG
 CCTGTTCCCTGATGCTGAGTACCTCTGGTAGATGGGAGAATATCTAGGACCTTATCGTAACGTGTTTACTAGTCGAATAATGGTAC
 D K D M Y D F M A R D R P S T P L I D R G I A L H K M I R L I T M
 GGCTTAGGGGAGAACATATTGGAAATTTTATGGAAATTTGGACATCCCTGAGTGGATTGATTTCCAAGAGGGGATCGACATCTGCCAATGGTA
 CCTGTTCCCTGATCCTGAACTACCGGACTGTTGCTGAGGAAATATCTAGGACCTTATCGTAACGTGTTTACTAGTCGAATAATGGTAC
 G L G G E G Y L N F M G N E F G H P E W I D F P R G D R H L P N G
 1000

FIG. 10-2



MORGAN, LEWIS & BOCKIUS, LLP
1111 PENNSYLVANIA AVENUE, NW, WASHINGTON, D.C. 20004
Inventor: Stephen A. JOBLING et al. Serial No. 09/297,703
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FIG. 10-2



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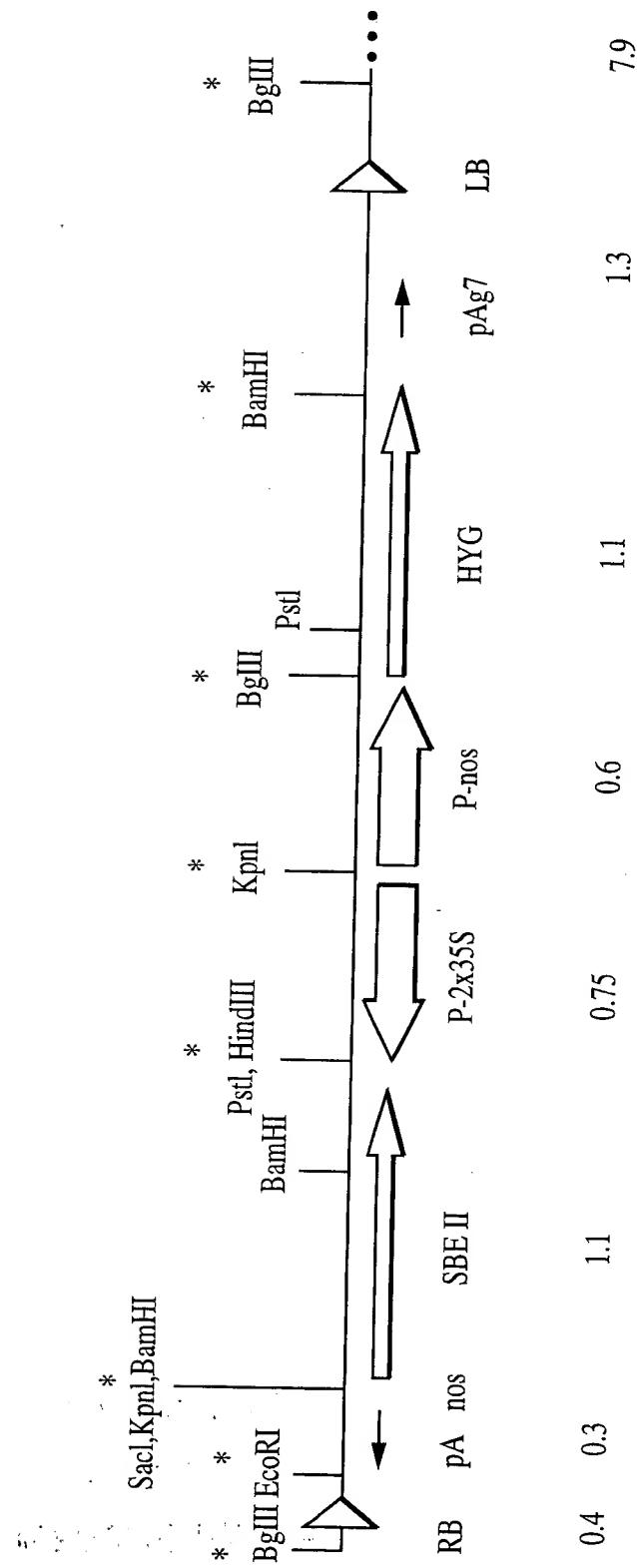


FIG. 11



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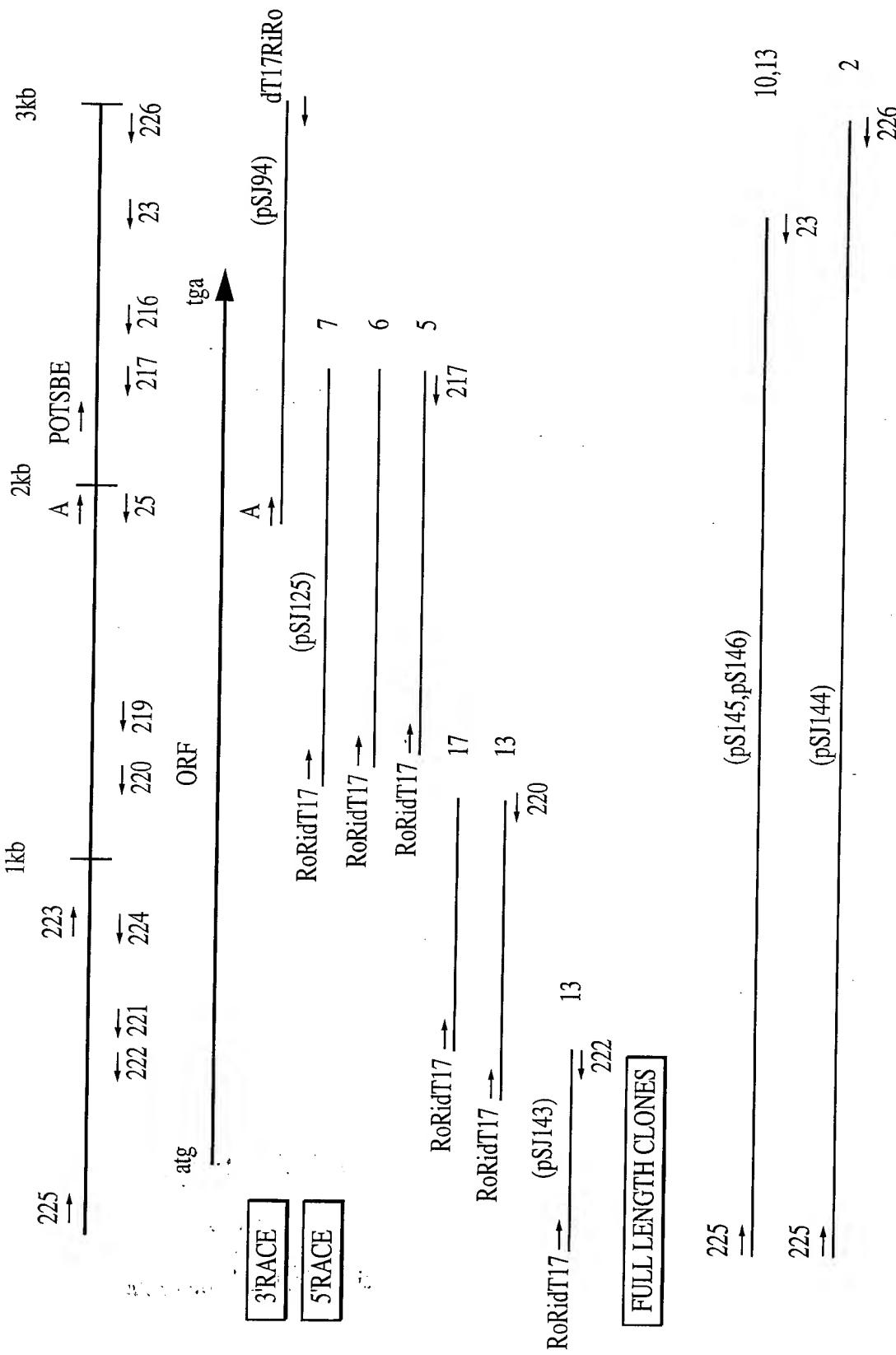
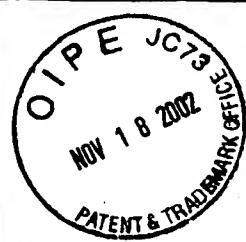


FIG. 12



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Kpn I
Xma I
Sma I
Bam HI
Sac I

AGTGAATTCGAGCTCGGTACCCGGGATCCGATTTCGCTATTCTCGCTATTGCTTCCGTTATTTCCATATAAAATCAATCTAACTTGCGCCATTCTATCTCTCCAAAC
TCACCTAAGCTCGAGCCATGGGCCCTAGGGTAAGCGTAAGAGCCATAACGAAGCCAAATAAGGTATAATTTTTATAGTTAGATTAGTGAACGGGTAAAGATAAGAGGTTTG
120

CCTCTTGAAGAAGGAGCTGTCTCGGAAGATCTTGTCTTATGAATCTGACTCCTCAAAATTAACTGTCTGCATCTGAGAAGGTCTTGTCTCCTGATGATCAGAT
 GGAGAACTCTCCCTGACAAGGAGCCTTCTAGAAAACGACCTTCAAGGAGAATTACTTAGACTGAGGAGTTAAATTGACAGAGCTTAGACTCTCCAGGAACAAGGACTACTAGTCTA
 L L K K E L F P R K I F A G K S S Y E S D S S N L T V S A S E K V L V P D D O I BstXI

3
 TGATGGCTCTTCTCAACATATCAATTAGAAACACTGGCACAGTTTGGAGGAATCCCAAGTTCTGGTGTATGGAGAGTCCTGTGATGAAAGATGATAAGATGTTGAGGAGA
 ACTACCGAGAACGAGAAGTGTATAGTTAATCTTGGTGTACCGTGTCAAAACCTCTTGGGTCCAAGAACACTACGTCTCTAGAACACTACTCTTACAACTCCTCT
 D G S S S T Y O L E T T G T V L E E S O V L G D A E S L V M E D D K N V E E D 480

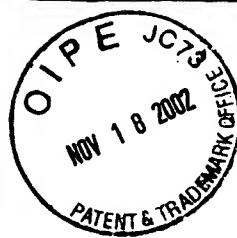
Hind III
 TGAAGTAAAAGAGTGGTTCATTGATGAGACAATTAGCATTGAAAAAGTGAATTCTAACCAAGGTCCATTCTCCACCTGGCAGTGGCAGAATAATGACCATAGATCCAAG
 ACTCTATTTTCTCAGCCAAGGTAAACGTACTCTGTTATCGTAACCTTTCTACATTGATTGTTCAAGGTAAAGGAGGTGGACCGTACCCGTCTCTTATACTGTATCTAGGTTTC
 E V K K E S V P L H E T I S K P R S I P P G S G O R I Y D I D P S

FIG. 13-1
FIG. 13-2
FIG. 13-3
FIG. 13-4

FIG. 13

FIG. 13-1

FIG. 13

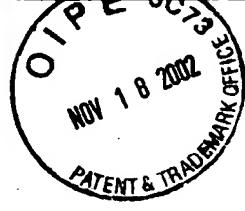


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CTTGGCAAGGTTCCGTCAACATCTTGACTACCGATATTACAGTACAAAGGCTGGTGGAAATTGACAAGTATGAAAGGTGGTTGGATGCCATTCTCTGGATTGAAAAGTTGG
 GAACCGTCCAAGGAGCTCGTGAACGTGGCTATAAGTGTCACTCCGGCAACTCCTTAACTGTCACTTCCACCAACCTACGTTAACCTAAACTTTCACAAACC
 L A G F R O H L D Y R Y S O Y K R L R E E I D K Y E G G L D A F S R G F E K F G
 TTCTTACGGCAACTTAACTTATAGGGAAATGGGACACCTGGAGCTACGTGGGCTCAGTGGAGCTACTTATTGGAGATTCAACAAATTGGAATCCTAATGCCAGATGTCACTGAAATGCA
 AAAAGAATGGGTCACTTGTCCCTTATGAAATTCCCTTACCCGGTGGACCTCGATGACCGAAGTGAATTACCCCTTAAGTTGAGATTACGTCACAGTACTGAGCTTACT
 F L R S E T G I T Y R E W A P G A T W A A L I G D F N N W N P N A D V M T R N E
 GTTGGGTCTGGAGATTGGTCAAAATAACGCAGATGGTTACCCACCAATTCCCTCATGTTCTCGAGTAAAGATAACCCATGGGATACTCCATTGGTACCTATGGTACCCATGAAAGATCAATTCCCTGC
 CAAACACAGACCCCTGTAAAGGGTTATTGGCTCATACCAAGTGGTCAAGGAGTACCAAGAGCTCATTTCTATGGTACCCATGGGATACTCCATTGGTACCTATGGTACCCATGAAAGATCAATTCCCTGC
 F G V W E I F L P N N A D G S P P I P H G S R V K I R M D T P S G I K D S I P A
 TTGGGATCAAGTTCAGGTCAAGGACCTGGTGAATAATCCCATACAATGCCATATACTATGATCACCAAGGGAGAAGTATGTTCAAAACATCCTAGCCAAGAGACCAAAATCACT
 AACCTAGTTCAAGAGTCAAAGTCCGGACCACCTTGGGTATGTTACGGTATGTTACGGTATGTTACGGTATGTTACGGTATGTTACGGTATGTTACACAAAGTTGAGGTGTTAGGTGA
 W I K F S V O A P G E I P Y N A I Y D P P K E E K Y V F K H P O P K R P K S L
 TAGGATTATGAAATCTCATGTTGGGATGAGTAGTATGGAGCAACTTAAACACATAATGCCAAATTAAACACATAATGCCATTAGGATGATGATGTTGGCTACAAAGGCTTGGCTACAGAT
 ATCCCTAAATACTTAGAGTACAACCTACTCATACCTCGGTATTAAATTGTTACGGTATAACGGTCAAAATAATACGGTAAATCTACTATAGCAAGGGCTAGTTACGGACAAGTCTCA
 R I Y E S H V G M S S M E P I N T Y A N F R D D M L P R I K K L G Y N A V O I
 CATGGCTTATTCAAGAGCATTCTATTATGCTAGTTGGTACCATGTCACAAACTTTGGCCTAGGCCGATTGGAAACTCTGTGATTGAAGTTGATGATTAAAGATAAGCTCA
 GTACCCGATAAGTTCTCGTAAGGATAATAAGTCAACTTCTCGGTAAACCCATGGTACAGTGGTAAACCTTGAGGACTACTAAACTTCAGAAATTATCTATTGCGAGT
 M A I O E H S Y A S F G Y H V T N F F A P S S R F G T P D D L K S L I D K A H
 TGAGTTAGGGCTGGTTCTCATGGTATTGTTCAAGGCCATGGCTAAATAATACGGTGGATGGTGGTAAACATGGTGGATGGTGGTAAACATGGTGGATGGTGGATGGTGG
 ACTCAATCCCGAACGAAACAAGAGTACCTATAACAAAGTACCTATAACAAAGTACCTATAACAAACTTACCATGGTACGGCATTATTATGCAACCTACCCACT
 E L G L L V L M D I V H S H A S N N T L D G L N M F D G T D S H Y F H S G S R G

FIG. 13-2



MORGAN, LEWIS & BOCKIUS, LLP
PENNSYLVANIA AVENUE, NW, WASHINGTON, DC 20004
Inventor: Stephen A. JOBLING et al. Serial No. 09/297,703
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FIG. 13-3



MORGAN, LEWIS & BOCKIUS, LLP
PENNSYLVANIA AVENUE, NW, WASHINGTON, DC 20004
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FIG. 13-4